

Sept. 23.—I saw three more, but think they were the ones seen yesterday.

Sept. 29.—I saw and shot two.

Oct. 2.—I saw two and shot them.

All these late birds, I think, had been living on the Island of Nantucket since the Sept. 11 landing. The summer of 1889 has been unusually wet and very cool.

1890.—Some fifteen Eskimo Curlew are reported to have been seen this season; none have been killed to my knowledge; I have not seen any. Some birds passed Tuckernuck and Nantucket on Sept. 18, a few of which remained over night; all gone next day.

1891, Aug. 20.—Thirteen were seen, they remained during the next day and then departed.

Sept. 1.—I saw one.

Sept. 7.—Three birds shot on Tuckernuck Island.

Sept. 13.—Two seen, one shot.

Sept. 15.—Two shot from a flock of Hudsonian Curlew.

Sept. 17.—Flock of thirteen seen. Up to Oct. 1 the birds above enumerated as being shot or seen comprise the entire number killed or noted on the Islands of Nantucket and Tuckernuck for this year.

A PRELIMINARY LIST OF THE BIRDS OF SAN JOSÉ, COSTA RICA.

BY GEORGE K. CHERRIE.

(Continued from Vol. VIII, p. 279.)

17. *Dendroica cærulea*.—I have seen the Cerulean Warbler only four times in Costa Rica. The first was a young male taken Aug. 24, 1890, in company with a lot of *D. æstiva* and *D. blackburniæ*. The other three were also young birds and were taken as follows: male Sept. 12, female Oct. 7, and female Oct 24, 1890.

18. *Dendroica dominica*.—Oct. 4, 1891, I saw a handsome male in the central park. It is the only example I have seen in Costa Rica.

19. *Seiurus noveboracensis*.—A series of twenty examples were taken between the middle of September and the last of May.

20. *Seiurus aurocapillus*.—I have taken but one at San José, and only three in Costa Rica.

21. *Seiurus motacilla*.—Rare.

22. *Oporornis formosa*.—I took a single female Oct. 7, 1890.

23. *Geothlypis trichas*.—In three years' collecting only five have been taken, These evidently belong to the eastern North American form.

24. *Geothlypis philadelphia*.—Not uncommon from the middle of September until the first of April.

25. *Geothlypis macgillivrayi*.—There are only three specimens in the Museum collection

26. *Geothlypis caninucha icterotis*.—Abundant resident about San José. Breeding commences the latter part of May. See further Proc. U. S. Nat. Mus., Vol. XIV, p. 526.

27. *Icteria virens*.—All specimens taken are in fully adult plumage.

28. *Sylvania pusilla pileolata*.—Adult and young birds are taken in about equal proportions.

29. *Sylvania canadensis*.—Of fourteen specimens collected about the city only one proved to be a male; that one was in immature plumage. The females also are duller than spring examples from the North.

30. *Basileuterus delatryi*.—One of the most abundant resident birds in the vicinity of San José. Breeding commences the last of May. I think only one brood is reared each year. A nest brought with two fresh eggs and the dead female to the Museum, June 6, 1890, is constructed of dry grass and fine rootlets, lined with horse hairs. Outside it measures 2.50 inches deep by 4.50 in diameter, inside 2.10 deep by 1.87 diameter. It was placed on the ground at the foot of a tree in a large coffee plantation. The eggs are white, thickly speckled, especially about the larger end, with cinnamon-rufous. They are oval in shape, and measure $.75 \times .57$ and $.77 \times .55$ inch.

31. *Setophaga ruticilla*.—Males in adult plumage are seldom seen about the city. At lower altitudes adults seem quite as common as young.

32. *Progne chalybea*.—A resident species about San José, but most abundant during the breeding season from May to the last of July. A favorite nesting site is in the hoods of the arc electric street lamps. The young do not differ from the adult bird except in having softer plumage.

33. *Chelidon erythrogaster*.—Abundant from September until March. Birds in perfect plumage are rarely seen. In 1890 the first arrivals were noted Aug. 27.

34. *Atticora cyanoleuca montana*.—A common resident. Breeds in the roofs of the houses. The young birds begin appearing about the first of July. They differ from the adult in being washed with pinkish-buff below, including the under tail-coverts, while above the metallic lustre of the feathers is not so bright. In some examples the throat and belly are white and the breast is crossed by a buffy band.

The male of a pair that had their nest in the roof of the Museum was accidentally killed before the eggs hatched. The female did not desert her post, and when the eggs were hatched attended to the wants of the young alone.

35. *Stelgidopteryx serripennis*.—Common resident. Breeds abundantly.

36. *Vireo olivaceus*.—Not at all common anywhere or at any time in Costa Rica.

37. *Vireo flavoviridis*.—I cannot add anything to my notes on this species published in this journal, Vol. VII, p. 329.

38. *Vireo philadelphicus*.—The earliest arrival I have noted was on Oct. 21, 1890.

39. *Vireo flavifrons*.—The first arrival in 1890 was noted on Oct. 4. This and the preceding species are rare birds about San José.

40. *Cyclorhis flavipectus subflavescens*.—Common. A sweet and tireless singer for about five months in the year, from February to July, during the breeding season, usually concealing itself amid the dense foliage at the top and middle of the low trees bordering the fields, where, out of sight of prying eyes, it pours forth melody loud and clear.

41. *Arbelorhina cyanea*.

42. *Arbelorhina lucida*.—These two species of Blue Creepers are only transient visitors in the neighborhood of San José, appearing early in September and lingering until December. They are most abundant during October, feeding together in small flocks in the 'jocote' trees, (*Spondias edulis*). It is only during the time this plum-like fruit is ripening that the birds are found.

The males of the two species are known under the name 'Rey de Picudos', while the females are only 'Picudos'.

43. *Euphonia*.—Although I have only taken five of the ten Costa Rican species of *Euphonia* in the vicinity of San José, three of the other forms are frequently to be seen for sale in the market, and I have thought it might not be out of place to present not only a list of all the Costa Rican species but also a key by which the different species may be known. Below is the key and following it are my notes on the different species. I might here add that I have never seen examples of either *E. gnatho* or *E. laniirostris*.

Key to the Species of Euphonia found in Costa Rica.

- a. Size relatively small, wing not more than 2.25 inches, usually less.
 - b. Outer tail-feathers only faintly (if at all) marked with white on inner webs, and under tail-coverts not whitish.
 - c. Crissum chestnut. *gouldi*.
 - c'. Crissum yellowish. *luteicapilla*.
 - b'. Outer tail-feathers distinctly marked with white on inner webs, or under tail-coverts whitish.
 - c. Middle of belly and crissum white or whitish. *minuta*.
 - c'. Middle of belly and crissum yellow or yellowish. *affinis*.
- a'. Size relatively large, wing more than 2.25 inches.
 - b. Crissum and under tail-coverts grayish or white with darker base. *annæ*.
 - b'. Under tail-coverts not grayish or white.
 - c. Middle of belly white and outer tail-feathers marked with white on inner webs (occupying the terminal third in adult males, sometimes rather faintly indicated in females or young).

- d.* Bill moderate. *hirundinacea.*
d'. Bill much thickened. *gnatho.*
e'. Middle of belly not white, and outer tail-feathers not always with white marks on the inner webs (never present in *elegantissima* or females of other species?).
d. Adult birds with crown blue and forehead chestnut; *young* without obvious chestnut on forehead and only faint indications of blue on crown. *elegantissima.*
d'. Crown not blue.
e. Males with shining blue-black throat. Females, forehead chestnut and middle of belly tawny ochraceous. *gracilis.*
e'. Males, throat and entire under parts yellow. Females without tawny ochraceous on belly or chestnut forehead. *laniirostris.*

43. *Euphonia elegantissima*.—In the immediate vicinity of San José I have taken only a single example, but a short distance out they are a not uncommon resident.

An abnormally colored adult female in the Museum collection has the upper parts and sides of head dusky greenish olive-gray; the top of head, forehead, chin and throat are normal, the rest of the lower parts are bluish gray, whitish in middle of belly.

Euphonia affinis.—I have never taken examples here in the wild state, but they are frequently brought to the San José market.

Euphonia anne.—Not taken at San José, but frequently seen in cages.

44. *Euphonia luteicapilla*.—A rather rare bird about San José.

Young males are indistinguishable from the females. As the bird grows older the characters of the male begin to show themselves in black in the loreal region and a yellowish shading on the forehead and sides of the crown. Then a few scattering black feathers appear in the throat, and lastly the breast begins to assume an orange tint. Fully adult plumage is not attained, I think, until the second year.

45. *Euphonia gracilis*.—I took an adult male Dec. 30, 1890. The bird was in full song, and the plumage showed no signs of having been in a cage. However, the home of this species is on the southwest Pacific coast. For further observations on this species see Proc. U. S. Nat. Mus., Vol. XIV, p. 530.

46. *Euphonia hirundinacea*.—A rare bird about San José, but of rather wide distribution in the country, chiefly on the Pacific side from the coast to an altitude of about 7000 feet. They are frequently seen in cages at San José. Young males resemble females. The transition to adult plumage seems to be accomplished very slowly.

Sr. Don Anastasio Alfaro who has had frequent opportunities for observing the nesting of this bird gives me the following interesting note. The nest is constructed in a hole in the ground, frequently the bank of some stream or by the roadside where the grading of the road has left

banks suitable for the excavations which are always some distance from any habitation, the bird being quite shy. Senor Alfaro is not entirely sure whether the *Euphonia* makes its own excavations or uses deserted holes of the Rough-winged Swallow (*Stelgidopteryx serripennis*). The hole ordinarily is about a foot in depth. The nest proper consists of a few small twigs lined with soft dry grass. The eggs are ovate in form; white, thickly speckled in a ring about the larger end with light walnut brown and over this some larger spots of seal brown. In two of the five eggs before me, collected May 4, 1888, the walnut-brown color covers uniformly the entire larger end of the eggs and there are seal-brown spots above this. In two of the remaining three eggs there is a distinct band about the larger end. In the last egg the band is broken, the white ground color being quite apparent. The five eggs measure as follows: .69X.50; .70X.48; .71X.51; .72X.50 and .73X.51 inch.

47. *Euphonia minuta*.—Not uncommon about San José, especially during the latter part of the rainy season from September until November.

48. *Tanagra cana*.—A very abundant resident. Gregarious. Feeding chiefly on fruits. Usually a rather silent bird, and if it has any song I have never heard it. Breeds abundantly, but while I have taken many young I have not been fortunate enough to secure a set of eggs. The young differ from the adult only in softer, duller plumage.

49. *Piranga leucoptera*.—A rare resident species.

50. *Piranga rubra*.—Met with sparingly from the beginning of October—first noted in the fall of 1890 on Oct. 7—until about January 10: this is about San José. Down near the coasts they are not uncommon until as late as the second week in March.

In a series of forty-three birds there are only seven males in adult plumage: the remainder are females and young males, many of the latter in mixed plumage.

51. *Piranga bidentata*.—A resident, but not common. Young males resemble the adult female, and I am inclined to think that the adult male plumage is not assumed until the beginning of the second year. Birds in mixed plumage are taken only in the spring during the breeding season, while young males in the dress of the female are met with for fully nine months of the year.

52. *Buarremon gutturalis*.—Resident, but except at the beginning of the breeding season (the first of May) very shy and retiring in its habits. Feeding chiefly on the ground, at the first approach of danger they dart into the hedgerows at the sides of the lanes and are out of sight. If the bird has any song I do not remember having heard it.

This species breeds abundantly about San José. It is often compelled to act as foster parent to the Bronzed Cowbird (*Callothrax robustus*), its nests seeming to be especially attractive to this bird. The first nest I found of this species was on May 12, 1889. On that date it contained three eggs. On the 17th there were four eggs in the nest and one on the outer rim, the last two eggs being those of the Cowbird. The eggs of *B. gutturalis* are ovate in form; before being blown they appeared perfectly

white; after the contents were removed they had a very pale bluish shade. The eggs of the Cowbird are larger and much darker, varying between pale blue and pea-green. Incubation in the eggs of *B. gutturalis* was far advanced, one of the eggs being broken in removing the contents. The two remaining eggs measure .67X.90 and .64X.88 inch. The Cowbird eggs were perfectly fresh; they measured .75X.94 and .75X.86. The larger is ovate in form, and the smaller rounded ovate. The nest was placed in an upright fork of a small coffee tree, about seven feet from the ground, and was not well concealed. Outwardly it is constructed of coarse, dry grass stems, and it is lined with a little soft, fine, dry grass. It measures: outside diameter 4.75, depth 2.50 inches; inside diameter 2.50, depth 1.75 inches. I almost placed my hand on the female before she left the nest. She made no fuss, flying quietly into the low bushes near by and disappearing.

A second nest was taken June 2, 1889, containing five eggs, three of the Cowbird. The eggs of *B. gutturalis* were fresh; one of the Cowbird eggs was much incubated, the other two fresh. The *B. gutturalis* eggs measure .90X.65 and .91X.65; one is marked with a few small specks of chestnut. The nest measures 2.75 inches in inside diameter by 1.75 in depth; outside diameter, 7.00X5.00, depth 4.00 inches. It is rather large and bulky and was built in the tops of some bushes where it was not well supported. The outside consists of rough dry grass stems; within this are smaller plant fibres and grass blades and a lining of very fine, dry grass and horse-hairs.

A third nest, taken June 11, 1889, contained three fresh eggs. The nest was rather peculiarly situated, being placed about four feet from the ground, against the trunk of a large tree, in the hollow formed by the branching of a parasitic plant that clung to the bark, and was most excellently concealed by leaves, and by far the neatest and most compact nest of the species I have seen. The three eggs measure .67X.91, .65X.89, and .66X.90 inch. A week before, in the bushes only a few feet from this nest, I took an abandoned nest containing one Cowbird's egg.

I took the last nest in 1889 on June 20. It contained two eggs of *B. gutturalis* and one of the Cowbird; all were fresh. The eggs of *B. gutturalis*, as usual, were white before being blown, and a very pale bluish after the contents had been removed. The eggs are ovate, measuring .95X.68 and .96X.68 inch. The Cowbird's egg measures .93X.73 inch, and in shape is a short ovate. The nest is roughly constructed, the materials used being much coarser than usual. Measurements: outside diameters 5.50X6.00, depth 2.75 inches; inside diameter 2.38, depth 1.50 inches. The bird was not once seen nor heard. June 22 I shot a female with a half-formed egg in the oviduct. After this date all the specimens I secured indicated, by the ovaries, that the nesting season was passed. At this same time the birds became very shy, usually keeping themselves hidden in the low, tangled hedges.

Young birds have a slightly olive shading on the back. The white crown stripe is only indicated by a few grayish white feathers. The throat

is a paler yellow than in the adult. The breast and abdomen are washed with yellowish olive, and the feathers of the breast have dusky blackish shaft-lines.

53. *Saltator magnoides*.—This bird is widely distributed throughout Costa Rica; it is found on both coasts and up to an elevation of 6000 feet. It is resident at San José, where for about five months in the year it is one of the most pleasing songsters of the early morning. Young birds are not as bright olive above as the adult; the superciliary stripe is only faintly indicated and of a pale yellowish color. There is a narrow ashy whitish stripe on chin and upper throat; the sides of throat and breast are dusky blackish. The cinereous of the belly is variegated with blackish and on the crissum the feathers are faintly barred with pale yellowish olive and dusky.

54. *Saltator grandis*.—This is much more abundant about San José than the preceding species, but is not found at as low an altitude. In the series of forty specimens in the museum collection none were taken lower than 3000 feet, and none above 7000 feet. As is the case with its congener, *S. grandis* has a loud, clear, and very pleasing song that is to be heard almost every morning for half the year. Both the male and female sing.

The nesting season commences about the first of May, for I have taken fully fledged young by the middle of June. A nest taken May 10, 1889, was placed about twelve feet from the ground between some upright forks of a small tree at the side of a lane. It was rather loosely constructed of dry grass and other plant stems. The outside was quite rough in appearance with many straggling pieces. The nest measures inside: diameter 2.75, depth 1.75 inches; outside diameter 6.00, depth 4.00 inches. The nest contained two slightly incubated eggs. They are light Nile-blue in color, marked, chiefly in a ring about the larger end, with spots and irregular lines and scratches of black. The eggs measure 1.07×.75 and 1.04×.75 inch. The female, as soon as one approached the nest, would glide quietly away, and not return until all danger had passed. I did not once see the male near the nest.

Young birds are rich olive-green above. The superciliary stripe, spot on lower eyelid, bend of wing and under wing-coverts are pale yellow; chin and throat pale yellowish white; upper breast and sides olive-green; lower part of breast and belly olive, much suffused with buffy; crissum and under tail-coverts as in the adult.

55. *Habia ludoviciana*.—Rare. I have never seen a specimen taken here in the plumage of the adult male.

56. *Sporophila moreleti*.—Common resident. This species, I believe, is never found on the Atlantic side of the mountains, but on the Pacific side down to the coast. Although it breeds abundantly about San José I have not found either the nest or eggs. This species is prized very highly as a cage bird, the song being low and sweet, and not without variations.

57. *Volatinia splendens*.—Common resident. Not found on the Atlantic side of the mountainous interior.

(*To be continued.*)